# Appendix C — Farmland Conversion Impact Rating Form

Federal Building, 2 Madbury Road, Durham, NH 03824-2043 (603) 868-7581 Fax: (603) 868-5301

www.nh.nrcs.usda.gov

April 26, 2004

RECEIVED

Re: NHDOT Plaistow-Kingston Project #10044B

APR 2 7 2004

VHB, Inc.

William J. Berry, PhD Vanasse Hangen Brustlin, Inc. Kilton Road, 6 Bedford Farms Bedford, NH 03110

Dear Bill,

I am returning a completed form AD-1006 on the NHDOT Plaistow-Kingston Project. A review of the important farmland soils within the project corridor indicate minimal impact on the conversion of agricultural soils to non-agricultural use. With Part VI complete on the AD-1006, I have proceeded to complete Part VIII and arrive at a final evaluation of 93 points for all three alternatives presented.

The point score of 93 is well below the threshold of 160 points that would trigger reconsideration. Because the final evaluation is less than 160 points, no further consideration or action is required and activity can proceed under any of the three alternatives proposed.

The FPPA approval process is complete and this project is considered in full compliance with the Farmland Protection Policy Act. Please file this form and letter for future reference, as needed.

If you have any questions, please don't hesitate to contact me.

Steven J. Hundley State Soil Scientist

#### FARMLAND CONVERSION IMPACT RATING

PART 1 (To be completed by Federal Agency)	Date of Land Evaluation Reques     February 16, 2004			est	2. Sheet <u>1</u> of <u>2</u>				
3. Name of Project: Plaistow-Kingston #10044B	4. Federal Agency Involved: Feder			eral Highway Ac	way Administration				
Proposed Land Use     Reconstruction and Widening of NH 125	1 '		., NH		7. Type of Project:  Corridor				
PART II (To be completed by NRCS)  1. Date Reque		est Received by NRCS			3. Person Completing the NRCS parts of this form				
2. 4/14/04				Steve Hundley, State Soil Scientist					
3. Does the site or corridor contain prime, unique ,statewide or local important fa			ırmland? Yes X No □			4. Acres Irrigated 5. Average Farm S			
(If no, the FPPA does not apply - Do not complete additional parts of this form)			)			-0-		125 ac.	
6. Major Crop(s)	7. Farmable Land in Government Jurisc			sdiction	8. Amount of Farmland As Defined in FPPA				
Corn Silage / Grass Legume Hay	Acres: 349,686 75.2%				Acres: 126,772 27.0 %				
9. Name of Land Evaluation System Used	10. Name of Local	Site Asses	ssment S	ystem	11. Date Land Evaluation Returned by NRCS			NRCS	
Rockingham County	ounty N/A				04/26/04				
PART III (To be completed by Federal Agency)				Alternative Site Rating					
				Site A	Site B	Si	te C	Site D	
A. Total Acres To Be Converted Directly (i.e., For additional right-of-way acquis				11±	11± 11±				
B. Total Acres To Be Converted Indirectly, Or To Receive Services (i.e., Remain			idor)	53	53 53				
C. Total Acres in Site (i.e., Within corridor 5¼ miles X 100 ft. wide))				64	64 64				
PART IV (To be completed by NRCS) Land Evaluation Information									
A. Total Acres Prime and Unique Farmland				0	0 0				
B. Total Acres Statewide and Local Important Farmland				46.0	46.0 46.0				
C. Percentage of Farmland in County or Local Govt. Unit to be Converted				<.003	<.003 <.003				
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value				41.9%	41.9%	41.9%			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland to be Serviced or Converted (Scale of 0 - 100 Pol				59.1	59.1	59.1			
PART VI (To be completed by Federal Agency) Corridor or Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b & c))		Max. P Corrido							
Area in Nonurban Use		15	15	14	14	14 14			
2. Perimeter in Nonurban Use		10	10	5	5	5			
Percent of Site Being Farmed		20	20	0	0	0			
Protection Provided by State and Local Government		20	20	0	0	0 0			
Distance from Urban Built-up area		0	15	0	0	0 0			
Distance to Urban Support Services		0	15	0	0 0				
7. Size of Present Farm Unit Compared to Average		10	10	5	5 5				
8. Creation of Non-Farmable Farmland		25	10	0	0 0				
Availability of Farm Support Services		5	5	5	5 5				
10. On-Farm Investments		20	20	0	0 0				
11. Effects of Conversion on Farm Support Services		25	10	0	0 0				
12. Compatibility with Existing Agricultural Use		10	10	5	5 5			<del></del>	
TOTAL CORRIDOR OR SITE ASSESSMENT POINTS		160		34	34	34		-	
PART VII (To be completed by Federal Agency)									
Relative Value of Farmland (from Part V above)		100	5	59	59	59			
Total Corridor or Site Assessment (From Part VI above or a local site assessment)		160		34	34	34			
TOTAL POINTS (Total of above 2 lines)		260		93	93	93			
PART VIII (To be completed by Federal Agency after final alternative is chose								<del></del>	
Corridor or Site Selected: Site A – Preferred Alternative or Widening of NH     125 to the East with Partial Relocation of both Hunt Rd. and Newton Jct. Rd.		2. Date of Selection: 12/16/02			3. Was A Local Site Assessment Used? Yes □ No ☑				
4. Reason For Selection:					L			·	
Site A (Preferred Alternative) provided the best compromise relative to avoidance of impacts to historic properties of all the alternatives, while also minimizing any impacts to natural resources including important farmland soils.									
Signature of person completing the Federal Agency parts of this form:					DATE 02/16/04				
(William Barry Vanasse Ha	naen Brustlin Inc.)								

<u>Descriptions</u>: Page 2 of 2

Site A = Alternative 4 or the Preferred Alternative. Widening primarily equally to both sides of the road, with a shift to the west between Dorre Road and Debra Road to avoid Happy Hollow Cemetery and to the east at the Hunt Rd./Newton Junction Rd. Intersection to avoid a historical property.

Site B = Alternative 2. Maintaining the existing edge of pavement on the east side and widening entirely to the west. Site C = Alternative 3. Maintaining the existing edge of pavement on the west side and widening entirely to the east.

**Note**: Important Farmland Soil impacts associated with the Hunt Rd./Newton Junction Rd. improvements (Kingston Project #10044C) were previously evaluated. See Form AD-1006 dated 12/16/02.

Appendix D — Consultation Relative to Threatened and Endangered Species, and Exemplary Natural Communities

#### Vanasse Hangen Brustlin, Inc.

Transportation

Land Development

Environmental Services



Kilton Road Six Bedford Farms, Suite 607 Bedford New Hampshire 03110-6532 603 644 0888 FAX 603 644 2385

July 25, 2002

Ref: 51272

Mr. Michael Bartlett US Fish and Wildlife Service 70 Commercial Street, Suite 300 Concord, NH 03301-5087

Re: Plaistow-Kingston, NH Route 125, NHDOT #10044-B

Dear Mr. Bartlett:

Vanasse Hangen Brustlin, Inc. (VHB) is currently developing designs and preparing the necessary environmental documentation for New Hampshire DOT's proposed reconstruction and widening of NH 125 between Plaistow and Kingston. The approximately 6-mile corridor begins at the intersection of NH 125/East Street/Joanne Drive in Plaistow and extends northward to the intersection of NH 125/New Boston Road in Kingston

The purpose of this letter is to formally request any information you may have on the presence of federally-listed threatened and endangered species in the project corridor. A site location map (USGS Quads, Kingston and Haverhill) is attached. If you have any questions or require further information please don't hesitate to call me at (603) 644-0888 or email: wbarry@vhb.com.

Thank you for your assistance.

Very truly yours,

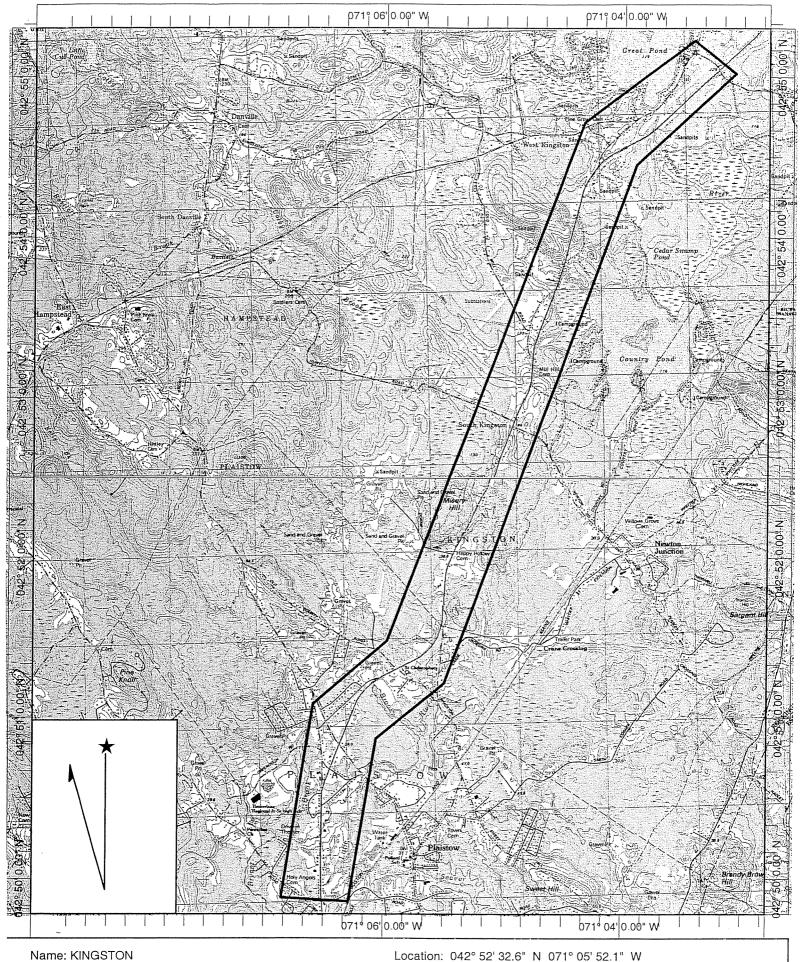
VANASSE HANGEN BRUSTLIN, INC.

William J. Barry, Ph.D.

Environmental Technical Director

Attachment

cc: M. Kennedy, VHB



Date: 7/25/2002

Scale: 1 inch equals 3636 feet

Location: 042° 52′ 32.6″ N 071° 05′ 52.1″ W Caption: NH Route 125 Plaistow-Kingston Study Corridor

#### Vanasse Hangen Brustlin, Inc.

Transportation
Land Development
Environmental Services



Kilton Road Six Bedford Farms, Suite 607 Bedford New Hampshire 03110-6532 603 644 0888 FAX 603 644 2385

July 24, 2002

Ref: 51272

Mr. Lionel Chute, Coordinator NH Natural Heritage Inventory NH Department of Resources and Economic Development P.O. Box 1856 172 Pembroke Road Concord, NH 03302

Re: Plaistow-Kingston, NH Route 125, NHDOT # 10044-B

Dear Mr. Chute:

Vanasse Hangen Brustlin, Inc. (VHB) is currently developing designs and preparing the necessary environmental documentation for New Hampshire DOT's proposed reconstruction and widening of NH 125 between Plaistow and Kingston. The approximately 6-mile corridor begins at the intersection of NH 125/East Street/Joanne Drive in Plaistow and extends northward to the intersection of NH 125/New Boston Road in Kingston

The purpose of this letter is to formally request a Natural Heritage Inventory database search to determine if there are any known occurrences of special status species or communities within the project area. A site location map (USGS Quads, Kingston and Haverhill) is attached. If you have any questions or require further information please don't hesitate to call me at (603) 644-0888 or email: wbarry@vhb.com.

Thank you for your assistance.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

William J. Barry, Ph.D.

Environmental Technical Director

Attachment

cc: M. Kennedy, VHB



#### United States Department of the Interior



#### FISH AND WILDLIFE SERVICE

New England Field Office 70 Commercial Street, Suite 300 Concord, New Hampshire 03301-5087

RE:

NH Route 125

August 27, 2002

Plaistow-Kingston, New Hampshire

NHDOT #10044-B

RECEIVED

AUG 2 9 2002

WHO Inc.

William J. Barry Vanasse Hangen Brustlin, Inc. Kilton Road 6 Bedford Farms, Suite 607 Bedford, NH 03110-6532

Dear Mr. Barry:

This responds to your letter dated July 25, 2002 requesting information on the presence of federally-listed or proposed endangered or threatened species in relation to the proposed reconstruction and widening of NH Route 125 between Plaistow and Kingston, New Hampshire. Our comments are provided in accordance with Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543).

Based on information currently available to us, no federally-listed or proposed, threatened or endangered species under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project areas. Preparation of a Biological Assessment or further consultation with us under Section 7 of the Endangered Species Act is not required. Should project plans change, or additional information on listed or proposed species becomes available, this determination may be reconsidered.

Thank you for your cooperation. Please contact me at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Philip A. Morrison

Fish and Wildlife Biologist

Chelif a. Marrien

New England Field Office

NH NATURAL HERITAGE INVENTORY

# RECEIVED

VEB, EC.

Sara Cairns, NH Natural Heritage Inventory From:

Dr William Barry, Vanasse Hangen Brustlin Inc

Six Bedford Farms Ste 607

Kilton Rd

To:

Bedford NH 03110-6532

8/2/2002 Date: Re:

Review by NH Natural Heritage Inventory of request dated 7/24/2002 NHI-1485 NHI File ID:

Road reconstruction Project type:

Location: NH 125 between Plaistow and Kingston

Town: Kingston

John Kanter

results. A species not listed by the state or the federal govenment as Threatened (T) or Endangered (E) has either been identified as a species of special I have searched our database for records of rare species and exemplary natural communities near the area identified in your request, with the following concern in NH (W), or is rare enough in the state to be tracked by NH Heritage even though it has not yet been added to the official state list. An asterisk (\*) indicates that the most recent report for that occurrence was more than 20 years ago.

Contact John Kanter, NH Fish & Game Dept, at (603) 271-2462. NH F&G has legal authority over animals in New Hampshire. Notes State Federal Eastern Pondmussel (Ligumia nasuta) Invertebrate Species

State Federal Atlantic White Cedar Basin Swamp Natural Community

evels, relatively high acidity levels, and accumulations of peat. The primary threats pooling), increased nutrient input from stormwater runoff, and sedimentation from Level bogs are extremely stagnant, and as such are characterized by low nutrient to this community are changes to its hydrology (especially that which causes nearby disturbance.

other species that can out compete -- and eventually eliminate -- Atlantic white cedar

trees. Increased nutrient input from stormwater runoff could also deleteriously

impact this acidic, low-nutrient plant community.

SNE Level Bog

existing trees, and drainage that results in lower water levels can lead to invasion by swamp. Damming which causes pooling for extended periods can flood and drown

Changes to the hydrology of the wetland are the greatest threat facing the cedar

Notes

PO Box 1856

DRED/NHI

Concord NH 03302-1856

### Memo



Natural Community (cont.)

Streamside fen ecosystem

State Federal Notes

The primary threats to this community are changes to its hydrology (especially that which causes pooling), increased nutrient input from stormwater runoff, and sedimentation from nearby disturbance. Streamside communities are also at risk from the introduction of invasive plants.

This site is within an area flagged for possible impacts on the state-listed Ligumia nasuta (eastern pondmussel) in the Great Pond.

on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based certain species. For some purposes, including legal requirements for state wetland permits, the fact that no species of concern are known to be present is sufficient. However, an on-site survey would provide better information on what species and communities are indeed present. DRED/NHI PO Box 1856

EOCODE: CP2B2A2000\*018\*NH

NHI: 1485

#### New Hampshire Natural Heritage Inventory - Community Record

#### Atlantic White Cedar Basin Swamp

<u>Legal Status</u> <u>Conservation Status</u>

Federal: Not listed Global: Rare or uncommon

State: Not listed State: Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Fair quality, condition and/or lanscape context ('C' on a scale of A-D).

Comments on Rank:

Detailed Description: NARROW THICKET OF TREES 25' TALL IN SMALL PATCH ALONG ROUTE 125.

LARGER PATCH IS POSTED AGAINST TRESPASSING AND WAS DELINEATED

FROM PHOTOS AND MAPS.

General Area:

Comments: LARGER PATCH NEEDS FIELD WORK AND LAND-OWNER CONTACT (Management comments): SMALL PATCH MAY BE SUSCEPTIBLE TO DISTURBANCE FROM ROUTE 125 AND

WINDTHROW.

Location

Survey Site Name: POW WOW RIVER NORTH

Conservation Land:

County: Rockingham USGS quad(s): Kingston (4207181)

Town(s): Kingston Lat, Long: 425431N, 0710319W

Size: Elevation: 125'

Precision: Within (but not necessarily restricted to) the area indicated on the map. (Dot # 50)

Directions: ROUTE 125 NORTH TOWARD KINGSTON. ABOUT 0.5 MILE NORTH OF INTERSECTION

WITH ROUTE 111, TURN RIGHT ONTO DIRT ROAD TOWARD SAND-PIT (IFF YOU COME TO ROUTE 108 INTERSECTION, YOU HAVE GONE TOO FAR). SMALL PATCH IS JUST EAST OF 125; LARGER PATCH IS EAST OF SANDPIT AND NORTH OF OPEN

WETLAND.

Dates documented

First observation: 1993-03-09 Last observation: 1994-03-09

Sperduto, D. & N. Ritter. 1994. Altantic White Cedar Wetlands of New Hampshire. Environmental Protection Agency, Boston, MA.

EOCODE: CP2B2A2000\*006\*NH NHI: 1485

#### New Hampshire Natural Heritage Inventory - Community Record

#### Atlantic White Cedar Basin Swamp

**Conservation Status** Legal Status

Global: Rare or uncommon Federal: Not listed

Critically imperiled due to rarity or vulnerability State: Not listed

**Description at this Location** 

Conservation Rank: Comments on Rank: Good quality, condition and lanscape context ('B' on a scale of A-D).

Detailed Description: 1993: At least 11 stands plus a larger red maple wetland complex with scattered cedar. The northern-most stand is one of the largest (up to 19 acres). At its east end, cedar forms a dense, young "dog-hair" thicket. Several hundred feet further to the northwest, the cedar is still fairly young but larger, with canopy dominants reaching 40 feet and ranging from 13-28 cm DBH. The western end is generally more mature. Trees with 14 cm and 33 cm DBH were aged at 75 and 97 years, respectively. Two small stands (ca. 2 acres each) occur east of this swamp. The cedar here is young and mostly scraggly, under heavy competition from red maple. To the south and west, cedar is scattered sparsely throughout a large wetland complex. A small (1-1.5 acre) basin wetland with scattered, small stands of cedar ca. 50 feet tall and 12-14 cm DBH occurs to the south of a dirt road south of Tucker Swamp. Several hundred feet further south is a small (ca. 2 acres) fairly young stand with 20-45 foot cedar that reach 10-17 cm DBH. The next wetland to the south (5-6 acres) is similar, with fairly young 70% cover of cedar. Canopies reach 45-50 feet and DBHs average 10-15 cm. An occasional cedar reaches 30 cm DBH. Just south of this area is an interesting closed kettle hole basin cedar bog (ca. 15 acres). The "bog eye" of this community has a shrub mat with a scattered cedar woodland canopy and abundant dwarf to medium height shrubs. The bog mat and cedar woodland grades into a cedar thicket ca. 15 feet high and averaging 5-8 cm DBH. This stand was probably cut 15-30 years ago. A number of large (15 cm) blowdowns persist on the ground, indicating a formerly more mature structure. At the transition to the open bog mat a gnarled cedar of 28 cm DBH was cored at a height of 2 feet, revealing a ring count of 207 years, the oldest known cedar in New Hampshire. Finally, two small (1.5 acres) stands are found 0.3 miles to the southwest. The northern-most has cedar reaching to 55 feet and 33 cm DBH. A cut stump indicates 70-80 year ages of the mature trees. The more southern stand has a more even mix of cedar and red maple (33% cover each).

General Area:

1993: The large northern stand is just west of a major powerline right-of-way, and is bordered on the west by a Chamaedaphne calyculata (leather-leaf) shrub border along the Powwow River. The two small stands to the east are at the northern edge of a large wetland complex extending south and west. The 5-6 acre stand to the south forms the western end of this wetland system. Further to the southeast of the cedar stands is a large red maple swamp with no apparent cedar.

Comments: Boundaries of cedar confirmed during 1993 field season. (Management comments): 1993: At the west end of Richard Sergeant Management Area there is a very deep emergent marsh dominated by Typha latifolia (common cat-tail) created by damming of the wetland by NH Fish and Game Department and/or beavers.

#### Location

Survey Site Name:

TUCKER SWAMP/POWWOW RIVER EAST

Conservation Land:

E.T.'s Landing

EOCODE: CP2B2A2000\*006\*NH NHI: 1485

Rockingham County: Town(s): Kingston

USGS quad(s): Kingston (4207181) Lat, Long:

Size:

Elevation:

425430N, 0710255W

120'

Precision:

Within (but not necessarily restricted to) the area indicated on the map. (Dot # 32)

Tucker Swamp. Directions:

Dates documented First observation:

1963

Last observation:

1993-08-19

Korpi, J. 1988. Field survey to Powwow Swamp, date unknown ("see visit report for TNHL").

Sperduto, D. & N. Ritter. 1994. Altantic White Cedar Wetlands of New Hampshire. Environmental Protection Agency, Boston, MA.

NHI: 1485 EOCODE: CP2C2A0000\*006\*NH

#### New Hampshire Natural Heritage Inventory - Community Record

#### **SNE Level Bog**

Legal Status Conservation Status

Federal: Not listed Global: Not ranked (need more information)

State: Not listed State: Critically imperiled due to rarity or vulnerability

**Description at this Location** 

Conservation Rank: Good quality, condition and lanscape context ('B' on a scale of A-D).

Comments on Rank: SMALL BUT UNDISTURBED.

Detailed Description: ASSOCIATED SPECIES INCLUDE: GAYLUSSACIA DUMOSA VAR BIGELOVIANA,

CALOPOGON, MENYANTHES, PLATANTHERA BLEPHARIGLOTIS, POGONIA, SARRACENIA, VACCINIUM SPP., UTRICULARIA CORNUTA, WOODWARDIA VIRGINICA, ERIOPHORUM VIRGINICUM, DROSERA INTERMEDIA, ETC. 1989: G.

DUMOSA.

General Area: A BOG MAT SURROUNDING A POND; ADJACENT SWAMP FOREST

DOMINATED BY CHAMAECYPARIS.

Comments: ALSO KNOWN AS KINGSTON BOG.

Location

Survey Site Name: CEDAR SWAMP POND BOG
Conservation Land: Webster Wildlife + Natural Area

County: Rockingham USGS quad(s): Kingston (4207181) Town(s): Kingston Lat, Long: 425357N, 0710348W

Size: 5 acres Elevation: 110'

Precision: Within (but not necessarily restricted to) the area indicated on the map. (Dot # 3)

Directions: CEDAR SWAMP POND BOG. WEST SIDE OF POND. TAKE DIRT ROAD THAT LEADS

ACROSS SANDPITS TO FOREST BEYOND. A BLOCKED OFF DIRT ROAD TO LEFT

(EAST) IS A FEW HUNDRED YARDS SOUTH OF BOG.

**Dates documented** 

First observation: 1982 Last observation: 1989-07-22

Sperduto, Dan. 1989. Field survey to Kingston Cedar Swamp of 22 July.

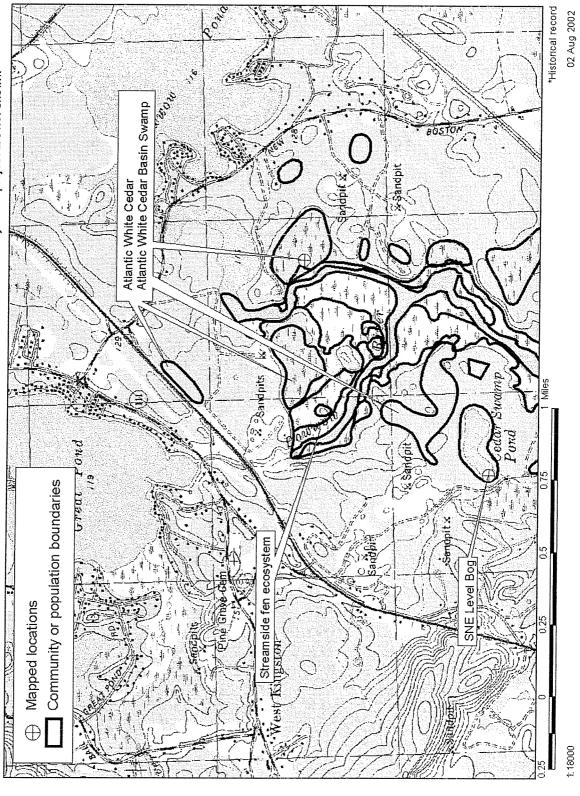


1485

NH Natural Heritage Inventory

Known locations of rare species and exemplary natural communities

Note: Mapped locations are not always exact. Occurrences that are not in the vicinity of the project are not shown.



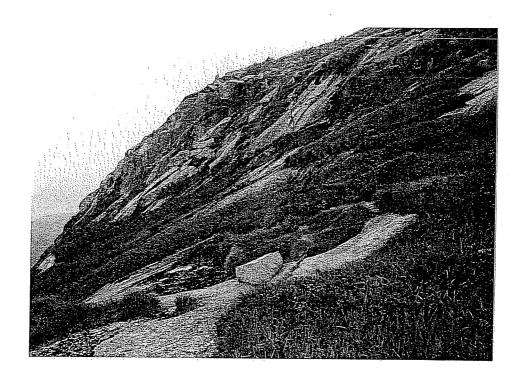
Department of Resources and Economic Development Division of Forests and Lands

DRED/NHI PO Box 1856

#### NEW HAMPSHIRE NATURAL HERITAGE INVENTORY

DRED - DIVISION OF FORESTS & LANDS
PO BOX 1856 -- 172 PEMBROKE ROAD, CONCORD, NH 03302-1856
(603) 271-3623

## Exemplary Bogs and Fens of New Hampshire



Daniel D. Sperduto and William F. Nichols with assistance from Katherine F. Crowley, Benjamin D. Kimball, and Sara J. Cairns

August 2000



#### A Quick Overview of the NH Natural Heritage Inventory's Purpose and Policies

The Natural Heritage Inventory is mandated by the Native Plant Protection Act of 1987 (NH RSA 217-A) to determine protective measures and requirements necessary for the survival of native plant species in the state, to investigate the condition and degree of rarity of plant species, and to distribute information regarding the condition and protection of these species and their habitats.

The Natural Heritage Inventory provides information to facilitate informed land-use decision-making. We are not a regulatory agency; instead, we work with landowners and land managers to help them protect the State's natural heritage and meet their land-use needs.

The Natural Heritage Inventory has three facets:

Inventory involves identifying new occurrences of sensitive species and classifying New Hampshire's biodiversity. We currently study more than 600 plant and animal species and 120 natural communities. Surveys for rarities on private lands are conducted only with landowner permission.

*Tracking* is the management of occurrence data. Our database currently contains information about more than 4,000 plant, animal, and natural community occurrences in New Hampshire.

Interpretation is the communication of Natural Heritage Inventory information. Our goal is to cooperate with public and private land managers to help them *protect* rare species populations and exemplary natural communities.

cover: Sliding fen at the top of Cannon Cliff on Cannon Mountain, New Hampshire Photograph by Daniel Sperduto

#### **Powwow River**

#### **Ecosystem Type**

Streamside fen ecosystem

#### Location

County(s):

Rockingham

Size:

140 acres

Town(s):

Kingston KINGSTON

Elevation:

120 feet

#### **Dates Documented**

First observation:

USGS quad(s):

1998-07-28

Last observation:

1998-07-28

#### General Area

1998: The peatland communities are found adjacent to emergent marsh and aquatic communities that occur right along the river's edge. This section of the Powwow River is relatively undeveloped with only a few scattered homes and gravel pits near the river. Good examples of Atlantic white cedar swamp also occur in this landscape block defined by Route 125 to the northwest, New Boston Road to the northeast, the railroad track to the southeast, and the dirt access road heading southeast from Route 125 toward the railroad track.

#### Description at this Location

1998: Composed of sizable examples of *Vaccinium corymbosum/Myrica gale-Spiraea alba* tall-medium shrub thicket (Type 10a; 92 acres) and Carex lasiocarpa/Myrica gale-Vaccinium macrocarpon sedge fen (Type 13; 51 acres).

#### Other

1998: This site requires more field work to better understand its landuse history and community composition, classification, delineation, and condition. The effects of hydrologic alteration resulting from human-built dams on the formation, maintenance, and/or long-term viability of the peatland complex needs to be considered.

An additional 50 acres adjacent to the peatland in this area are emergent marsh, aquatic bed, and river (total area is 192.9 acres).

POWWOW RIVER Kingston Streamside Fen Ecosystem Type# Vaccinium corymbosum/Myrica gale-Spiraea alba tall-medium shrub thicket Carex lasiocarpa/Myrica gale-Vaccinium macrocarpon sedge fen 1/6 0 10a Sandpits 10a 10a river course & Sandpit 0 emergent marsh 10a D O 13 x tiqbr (see Cedar Swamp Pond site map) Cedar Swamp Pond 13 10a 0.25 0.5 Miles 0.25 Scale = 1:12,000